

Abstract

Purpose

To provide a glass panel assembly sealing method and sealing process furnace used therewith wherein coordinated control of temperature and pressure enables the removal of impure gas and the like from the glass panel assembly and reduces the amount of residual impure gas and the like remaining in the glass panel assembly after the sealing process is complete.

Means

A seal frit is applied between two mutually overlaid glass substrates comprising a glass panel assembly. The internal temperature of the glass panel assembly is raised, through a forcefully circulated environment, to a preliminary temperature T1 which is near the initial melting temperature of the seal frit. The pressure (P1) of the internal environment is then reduced while the preliminary temperature is maintained. The temperature is then increased from the preliminary temperature up to the sealing temperature T2 by the forcefully circulated environment, after which the glass panel assembly is cooled by the forceful circulated environment.